

CHEMICAL ENGINEERING 412

THERMODYNAMICS II

MWF 10-10:50 AB-126 FALL, 2003

Professor: Walter G. Chapman (wgchap@rice.edu) Phone: 4900 Office: AL B228
Office Hours 3-5 Mondays

Text: Smith, Van Ness, and Abbott Introduction to Chem. Eng. Thermodynamics

Homework (weekly) and Computer Problems: 20% of your final grade
Computer Problems (1 or 2): each worth the same as 3 homework sets

2 Quizzes = 100 points each Open and/or closed book
Final = 200 points Open and/or closed book

Honor Code:

- Homework and computer problems can be discussed in groups; however, only your own work should be turned in.
- Do not look at old tests. Example problems will be handed out.

<u>Lecture Topic</u>	<u>Lecture No.</u>	<u>Chapters</u>
Introduction to Binary Separations	1-3	Chapter 10
Thermodynamics of Mixtures, Phase Equilibrium Criteria, Ideal Solutions	4-6	10, 11
Partial Molar Properties, Non-ideality in the Vapor and Liquid Phases	7-9	11
Phase Rule, Phase Equilibrium Calculations, Henry's Law	10-14	10, 12
Phase Equilibria from Equations of State	15-18	14
Phase Stability, Liquid-liquid Equilibrium, Adsorption	19-22	14
Chemical Equilibria: Homogeneous, Heterogeneous, and Multiple Reactions	23-27	13
Review of Binary Separations	28-29	Notes Provided
Special Topics: Statistical Mechanics, Molecular Simulation	30-32	16, Notes Provided

Any student with a disability requiring accommodations in this course is encouraged to contact me after class or during office hours. Additionally, students should contact Disabled Student Services in the Ley Student Center.